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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/633,671	08/07/2000	Robert Wayne Paglione	SAR 13385	3804

28166 7590 04/23/2003

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EXAMINER

TRAN, DZUNG D

ART UNIT	PAPER NUMBER
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2633

DATE MAILED: 04/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/633,671

Applicant(s)

PAGLIONE ET AL.

Examiner

Dzung D Tran

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 07 August 2000.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Specification***

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 4, 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Logan Jr. U.S. patent no. 5,379,309.

In considering claim 1, Logan Jr. discloses an apparatus for generating optical signals, the apparatus comprising:

A mode-locked semiconductor laser that generates mode-locked optical with emitted wavelengths separated by approximately 10 GHz to approximately 300 GHz (figure 2, element 12, column 3, lines 14-27, column 6, lines 14-36), an optical splitter with a splitter input, a first splitter output and a second splitter output, the splitter input being coupled to said mode-locked semiconductor laser (figure 2, column 4, lines 22-27), an optical modulator having a modulator input and a modulator output, the modulator input being coupled to the first splitter output (figure 2, element 20, column 4, lines 52-56) and an optical coupler having a first coupler input, a second coupler input and a coupler output, the first coupler input being coupled to the modulator output, the second coupler input being coupled to said second splitter output (figure 2, column 4, lines 22-27). Logan Jr. differs from claim 1 of the present invention in that Logan Jr.

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discloses splitter and coupler while claim 1 claimed demultiplexer and multiplexer respectively. Since the demultiplexer or spiltter is well known in the art for separating the optical signals and the multiplexer or coupler is well known in the art for combining the optical signals. Therefore, if it is not inherent, it would have been obvious that the demultiplexer or spiltter and the multiplexer or coupler perform the same function that is separating the optical signals and combining the optical signals respectively.

In considering claim 5, Logan Jr. further discloses mean for subtracting the difference between the modulated signal and the second signal (figure 2, column 6, lines 14-50).

In considering claims 4 and 6, Logan Jr. further discloses downconverting means (column 2, line 61 to column 3, line 1, column 6, line 52 to column 7, line 6).

3. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Logan Jr. U.S. patent no. 5,379,309 in view of Hohimer et al. U.S. patent no. 5,349,601.

Logan Jr. differs from claim 2 of the present invention in that he does not specific disclose the mode-locked semiconductor laser is a semiconductor racetrack laser. Hohimer discloses a racetrack laser (column 10, lines 20-60). At the time of the invention was made, it would have been obvious to a person of ordinary skill in the art to include the racetrack laser of Hohimer in the mode-locked semiconductor laser of Logan Jr.. One of ordinary skill in the art would have been motivated to do this for improving the pulse repetition rate in mode locked laser and characteristic such as operating wavelength definition and tuning.

4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Logan Jr. U.S. patent no. 5,379,309 in view of Veselka et al. U.S. patent no. 5,963,567.

Logan Jr. differs from claim 3 of the present invention in that he does not specifically disclose the optical modulator is a Mach-Zehnder modulator. Veselka discloses a Mach-Zehnder modulator (figure 2, element 12, column 3, lines 51-67). At the time of the invention was made, it would have been obvious to a person of ordinary skill in the art to include the Mach-Zehnder modulator of Veselka in the optical modulator of Logan Jr.. One of ordinary skill in the art would have been motivated to do this since Mach-Zehnder modulator offers the advantage of being independent of the wavelength and polarisation of the input source and simple/economical implementation.

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
- a. Alphonse U.S. patent no. 6,018,536. Multiple wavelength mode locked laser.
  - b. Delfyett et al. U.S. patent no. 5,546,415. High speed pulse slicer/demultiplexer with gain for use in solid state regenerative amplifier systems.
  - c. Winer et al. U.S. patent no. 5,854,804. Method and apparatus for synchronizing a mode locked laser with a device under test.


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6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dzung Tran whose telephone number is (703) 305-0932.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's Supervisor, Jason Chan, can be reached on (703) 305-4729.

The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

  
JASON CHAN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600